THE SIGNIFICANCE OF MARITIME TRANSPORT IN GEOGRAPHY OF TRADE

Capt. K. Subramaniam
President
International Association of Ports and Harbors

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Transport and logistics is the means to physically move trade from one place to another.

**Major Global Trade Routes**

- **SEA** 80%
- **LAND** 13%
- **AIR** 7%

**GLOBAL CONTAINER VOLUME 2021**

849 MILLION TEUs

**GLOBAL TRADE VOLUME 2021**

USD 28.5 TRILLION
6 Geographical Regions & Trade Trend

Africa  Europe  America, Central and South  America, North
Asia, South East and Oceania  Asia, South/West, East and Middle East

Trade continues to increase in all regions, but less so in the East Asia and Pacific regions
Q1 2022 relative to Q1 2021 and Q1 2019

Source: UNCTAD estimates based on national statistics.
Note: Changes are year-over-year. Data excludes intra-EU trade. Data does not include trade in services.
Changes & Evolution in Maritime Trade

- Containerization
- Evolution of Container Vessel Sizes
- Evolution of the Cooperation Between Shipping Companies
- Increase in trade flows as a result of liberalization and globalization
- Rationalization of Shipping Routes Hub and Spoke Concept: Main Hub Ports, Secondary Transshipment Ports
- Technological Changes
Role Of Ports

5th Generation (2010 onwards)
Ports focused on customers and the local community offering deep IT integration with various stakeholders.

4th Generation (2000 - 2010)
Global e-ports transferring information on a global scale, having global standards of cargo handling.

Ports being a part of the supply chain, making use of bilateral electronic data exchange, i.e. exchanging data with the customers.

2nd Generation (1960 - 1980)
Logistic ports providing various services including warehousing.

1st Generation (till 1960)
Simple loading/unloading operations ports.

- Ports now have evolved to be Trade Gateways & Enablers of Trade
- Ports are being developed as Multimodal Strategic Hubs & Regional Distribution Centers (RDC) with Smart & Sustainable Port concepts

Source: P. Lee, J. Lam, Developing the Fifth Generation Ports Model
Significant & Important Of Ports

- Gateways for domestic and International trade
- Ports are sources of local employment
- Major Shipping Commodities such as Food Items, Crude petroleum and petroleum products, Chemicals, Raw Materials and etc.
- Intermodal Transportation System that facilitate goods movement to businesses in local communities and worldwide markets
- Homeland Security for cargo traffic passing through, with security measures to adequately monitor and protect the ports while still allowing an efficient flow of goods.
Current Challenges In Maritime Supply Chain

DISRUPTIONS:

- Supply Chain Crisis/Trade Imbalance
  - Covid-19
  - Russia – Ukraine War
- Energy Transition
- Political Instability
- Climate Change/Extreme Weather
### Effects Of Disruption

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Current Challenges In Maritime Supply Chain

- Inadequate infrastructure to absorb and respond to shocks in demand and supply.
- Breakdowns in hinterland storage capacity & intermodal connectivity of end-to-end supply chains.
- Financing from private sector for future port expansions as public sector funding will no longer suffice.
- Continued reliance on trucks is impacting supply chain fluidity.
- Lack of Data Collaboration.
- Efforts to improve port efficiency through automation and labor skillsets.
- Lack of Transparency & Efficiency Of Clearance Procedures And Transparency In Data Availability & Exchange.
- Nearshoring: Due to disruption, it's possible that business supply chains will become shorter, as companies want alternative to the longer Asia-based supply chains.
Future Challenges in Maritime Supply Chain

01 Protectionism and trade restrictions

02 Digitalization & Automation (Cyber Security)

03 Energy Transition (Decarbonization)

04 Financing (Port expansion, Multimodal Strategic Hub & Regional Distribution Centre)
**Climate & Energy**

- Sharing of best practices
- Dash boarding the status of port implementations
- Pilot projects bunkering infrastructure
- Onshore power
- Port call optimization
- Just-in-time arrival of vessels.

**Data Collaboration**

- Assess the industry status of digitalization.
- Incentivize and encourage ports and their stakeholders to commit to required change management.
- Public-private partnership actions for capacity building at ports.

**Risk & Resilience**

- Guidelines for ports setting out their business continuity strategy.
- A global port resilience tracker which will serve as a long-term successor to the COVID-19 economic impact barometer.
- A database of best practices structured by risk and resilience categories.
- Collaboration with PIANC on steps Navigating a Changing Climate.
Ports Action Plans

**INFRASTRUCTURE / CAPACITY BUILDING**
- Continuous capacity building
- Channel & Wharf dredging
- Hinterland infrastructure development
- Automation

**REGULATORY GOVERNANCE**
- Institutional framework
- Law & legislation / policy & strategy
- Guidelines & SOP

**DIGITIZATION & DIGITALIZATION**
- Ports & logistics community system & single maritime window
- Big data analysis for forecasting & future planning
- Efficient port operations & hinterland movements

**TRANSFORMATION OF WORKFORCE**
- Upskilling & reskilling employees
- In-house training & certification
- Collaborations with higher learning institutions

**DECARBONIZATION**
- Emission reduction & GHG
- Alternate fuel
- E-equipment RTG, quay crane
- LED lighting / solar power
- Onshore power supply
- Greening environment
INTERNATIONAL & REGIONAL COLLABORATIONS

1. International Maritime Organization (IMO) is to promote safe, secure, environmentally sound, efficient and sustainable shipping through cooperation.

2. APSN is to promote economically and environmentally sustainable ports by strengthening cooperation, developing best practices and guidelines, enhancing supply chain effectiveness, building capacity and stimulating information and personnel exchange.

3. World Customs Organization (WCO) promotes certainty, predictability and security of the international movement of goods and people accompanying goods by establishing clear and precise standards.

4. International Organization for Standardization (ISO) is a worldwide federation that collaborate in the development and promotion of international standards for technology, scientific testing processes, working conditions, societal issues & etc.

5. The Global Maritime Forum is an international NGO committed to shaping the future of global seaborne trade to increase sustainable long-term economic development and human wellbeing.
Policymakers should focus on the following components due to uncertainties, rising transportation costs, and increased volatility in the near future:

1. Systematic resilience building in maritime transport and seaports
2. Trade facilitation and digitalization
3. Competition and options for diversification
4. Regional trade agreements and logistics
THANK YOU